

Atmos. Meas. Tech. Discuss., referee comment RC2
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Comment on amt-2021-433

Laurent Spinelle (Referee)

Referee comment on "Long-term behavior and stability of calibration models for NO and NO₂ low-cost sensors" by Horim Kim et al., Atmos. Meas. Tech. Discuss.,
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Very interesting paper and very interesting work, particularly on this rather new subject with such a very long-term experimental data base. The work carried out is presented in a very thorough way, which in a way do not help for a fast reading but help the interested reader to fully understand the work. Congratulations to the author for this work. Only few comments and questions below:

-Line 64: "two identical electrochemical" what do you mean by identical? are they coming from the same batch? or is it only that they are the same model?

-Line 64-65: "relative humidity sensor and a temperature sensor" is this a unique sensor? in this case maybe you can write "a combined relative humidity and temperature sensor".

-Line 153: "For evaluation of the sensor calibration performance", I think 1 the is missing at the beginning of the sentence "For the evaluation of the sensor calibration performance"?

-Line 168: "An schematic", only a typo "A schematic".

-Paragraph 3.1.2: did you considered to filter based on the manufacturer's limit of detection or one you could have evaluated with some lab test ? in fact, it is known that at low ambient air concentration (10-15ppb) sensors response is dominated by noise or interference.

-Line 304-305: "the penetration of raindrops into the sensor units may cause significant disturbance of the sensor signal", do you mean disturbance on the electronic components?

-Line 346: "lower, medium and higher NO₂ levels", you should maybe give your range of concentration as those categories may vary a lot from country to country.

-End of the conclusion: Do you consider the contrast you are pointing out between NO and NO₂ can be linked to the difference between the gaseous species involved and their sensitivity to interferent ? e.g. O₃ is a well-known interferent for NO₂ sensors which can impact drastically the data quality, in particular in the filtered sensor version for which the filter efficacy depends on the O₃ level, whereas this kind of strong interference are less common for NO sensors.